

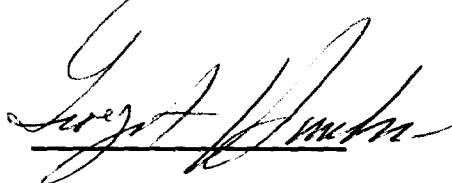
**A Comparative Study of Accounting Computer Software
Specifically Designed for Agricultural Operations**

An Honors Thesis (HONRS 499)

by

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**Dr. George F. Hanks
Thesis Advisor**

A handwritten signature in cursive script, appearing to read "George F. Hanks", written over a horizontal line.

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Acknowledgements

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I would like to thank especially the Ball State Political Science Department, Carol Downing, and Bob Sims, my uncle, for the use of their computers in conjunction with this study. I would like to thank my dad for access to "real" farm financial data and a background in farming so that I could make this study useful. I would also like to thank the farmers, banker and accountant I talked with for the valuable information they shared with me.

I would like to thank Shantelle Brown, Andy Ebbert, Sharon Kline, Victoria Renn, and so many others at the Christian Student Foundation for their help in the mundane things like typing and proofreading, and for the support and encouragement they gave me.

Lastly, I would like to thank Dr. Hanks for advising and supervising this thesis project, and for encouraging me to do something useful and different.

agricultural industry today, along with the more complicated forms of bookkeeping needed, farmers need assistance. Accountants with agricultural background and accounting computer software can assist farmers in managing their business. The purpose of this project is to compare several computer software packages specifically designed for the use of farmers and discuss what they have to offer.

The Study

In this study, five software programs were studied. Among the areas examined were tax reports and enterprise analysis, documentation, cost, and hardware requirements. The use of enterprises allows the user to keep track of specific areas of the operation, such as individual fields, certain groups of livestock and pieces of machinery. Examples would be the corn in the south field, feeder pigs born in the month of March, and the 6 row New Holland combine. Use of enterprises enables the user to separate income and expenses to the appropriate enterprise so that he can differentiate the profitability of an individual unit of his operation compared to the profitability of other enterprises and the operation as a whole.

Each program was studied individually from documentation and demonstration copies provided from software companies, such as Harvest Computers, Pioneer and FBS Systems, Inc. An individual write-up of the findings is included and the findings are consolidated into chart form for easier comparison. The study is designed to give the individual farmer an idea of what the software packages offer, and what is required so that he can apply the information to his needs. The farmer is encouraged to gather more information from these and other software programs before making a final decision.

Other Similar Works

Several years ago, Karen L. Holman, Extension Computer Applications Specialist from Colorado State University Cooperative Extension, conducted a similar study. Her work consisted of a general review of eight computer software programs. Her review covered features such as "Chart of Accounts," "Transactions," "Reports," "Use and Documentation," and "Hardware Requirements, Cost and Source."

In this study, I plan to branch off from her study and focus on the reports the software generates, specifically those reports generated for income tax preparation and enterprise analysis reports. Enterprise analysis reports refer to internal reports that provide information concerning the productivity and profitability of the operation. Other criteria, such as cost, hardware required and ease of use will also be reviewed in the course of the study.

This study is relevant for use today's agricultural world. Since 1988, computer hardware and software have gone through changes and improvements, and continues to improve. Several programs used in this study have been either developed or revised during the past year.

Procedure

During the Spring of 1992, the preliminary work for this project was started. Interviews were conducted with farmers, an accountant, a banker, and computer experts with systems on the market. From the information in those interviews the focus of the project was formulated.

Over the summer, letters were sent to companies with programs on the market

asking for assistance in this project. Several companies sent documentation and demonstration copies free of charge. Five programs were chosen for analysis. From an initial overview of the programs, the specific aspects of the of the programs to be studied were determined.

During the academic school year of 1992-1993, the comparative study was conducted and the results compiled in this report.

Areas of Study

The following is a list and explanation of the areas that are addressed in this study.

Cash/Accrual Basis:

States what basis the program is capable of. Cash means that income is recognized when received, expenses when paid. Accrual means that income is recognized when earned, expenses when incurred.

Tax Report Generation:

This includes the forms, schedules and reports that the program will generate to transfer to IRS schedules and forms, and other tax related documents. Refer to the Appendix for explanation of schedules and forms mentioned.

Enterprise Analysis Generation:

This is analysis of the enterprises function of the program. It includes an explanation of how the enterprises are set up and function, and what reports and documents are available to determine the financial standing of an enterprise.

Reports Generated:

This includes a listing of the other reports generated and explanations if necessary.

Documentation:

An explanation of the actual written information and instructions provided by the company.

Ease of Use:

An analysis of the understandability of the screen commands and documentation in performing the operations.

Correction:

An analysis of the ease of correction in the incidence of errors.

Cost/Hardware Required:

Includes the cost of the program and what is included in that cost, and the hardware required to run the program.

Services Offered:

This includes a look at the software backup, and the additional services that are offered by the company.

Other Programs Offered:

A list of other programs offered by the company.

Analysis of Software Studied

Farm Accounting & Advanced Farm Accounting

Pioneer Hi-Bred International, Inc. has two computer applications software packages for accounting records. These two programs are Farm Accounting Version 2.0 and Advanced Farm Accounting Version 1.51. The basic difference between Farm Accounting and Advanced Farm Accounting is that Advanced Farm Accounting has a separate inventory function that is not included in Farm Accounting. Both versions have separate menu options for cash transactions, recurring transactions and other transactions. Farm Accounting is a cash-based accounting system. Advanced Farm Accounting can be used for either cash-based or accrual accounting systems. One area to note is that in this system, the term "vendor" applies to both a supplier and a customer.

Tax Information Generated

Both Farm Accounting and Advanced Farm Accounting generate tax information. Information for Schedules F, C and A can be produced for easy transfer of data to the appropriate tax forms. Refer to Appendix. Total profit, total expenses and net profit are labeled so that these numbers are easy to find. Line numbers that correspond with the numbers on the tax forms are also included, which aid in the transfer of data. Line numbers are set when the account is created.

Enterprise Analysis Generated

Both Farm Accounting and Advanced Farm Accounting generate information for enterprises. Enterprises must be one of eight types: Crop, Livestock, General Farm,

Home, Small Business, Marketing, and two user defined enterprises. Farm Accounting allows each enterprise to have its own income and expense accounts. These accounts can be tailored to fit the need of a particular enterprise, chosen from a list of default accounts, or the complete set of default accounts can be used. There are different default accounts for different enterprise types. The enterprise income statements report the income, expenses and profit of each enterprise with the balance of each account within the enterprise.

Advanced Farm Accounting allows the enterprise to have its own income, expense, liability, asset, and net worth accounts. The accounts are labeled with a four letter enterprise name and two-number account number. Each enterprise is set up with a default set of accounts that can be changed to fit the needs of the individual enterprise. The enterprise income statement reports the income, expenses, inventory changes, and profit for each enterprise with a listing of the balances of the enterprise accounts.

Other Reports Generated

Both Farm Accounting and Advanced Farm Accounting produce a number of other reports. The General Income Statement is a two-page summary of the financial aspect of the operation. The Cash Flow Statement reports the movement of cash on a monthly or quarterly basis. The Transaction Listing generates a report of all transactions in either chronological order, by account number or in the bank statement format. The Account Number Listing is the chart of accounts complete with quantity, weight and dollar value of each account. The Vendor Listing reports the amount of business done with each vendor. Farm Accounting also generates a Net Worth Statement, a worksheet that aids

in entering assets and liabilities into the system.

Documentation/Ease of Use/Error Correction

The documentation sent with the demonstration copies was straightforward and easy to follow. None of the actual manuals were available for analysis with the demonstration copies. However, manuals are available to use with the complete versions of the software programs. Manuals include samples of reports and transactions for the users reference, as well as instructions for use.

Both programs were fairly easy to use. The main screen was split into five sections: Transactions, Reports, Enterprises, Vendors, and Set Up. Each screen was easy to understand and self-explanatory. Also, there was a help key (F1), and the escape key allowed the user to exit any screen or function.

Error correction was easy and self-explanatory. The Transactions, Enterprises, and Vendors menus have a change/delete function. Transactions are selected by transaction number and changed or deleted accordingly. The software then makes the appropriate changes to the related accounts. Enterprises and Vendors works in much the same way, and are chosen by enterprise or vendor respectively.

Services Offered

Both Farm Accounting and Advanced Farm Accounting come with a reference manual, which includes samples of reports and transactions, and user instructions. In addition, Pioneer offers a support hotline to answer questions concerning the software. The hotline can be purchased as a yearly subscription, or be paid for by the minute. Computer clinics are offered in nine Midwestern and Plains states to teach users the

— fundamentals of using both the hardware and software. Instructional Material Kits are available for use in the classroom. Pioneer also offers Farm Dayta², which is a database of current agriculture news, markets charts, futures and options prices, market commentaries, cash prices, government statistics, and radar weather. Demonstration copies of many software packages are available. The price paid for demonstration copies is applied to the purchase of software.

Hardware Required

Both Farm Accounting and Advanced Farm Accounting require the following hardware:

— MS-DOS compatible PC with hard disk
512K RAM
DOS version 2.1 or greater
80-column printer or greater, with 132-column compressed print mode capability

Cost

Farm Accounting:

\$279.00	reference manual and 30 days free support
429.00	up to 3 hours of on-site or teletraining and 30 days of free support
529.00	up to 3 hours of on-site or teletraining and a 13-month subscription to the Customer Support Hotline
\$ 29.00	conversion from Farm Accounting version 1.0 to 2.0

Advanced Farm Accounting:

\$449.00	reference manual and 30 days free support
649.00	up to 5 hours of on-site or teletraining and 30 days of free support
749.00	up to 5 hours of on-site or teletraining and a 13-month subscription to the Customer Support Hotline

Conversion from Farm Accounting

\$199.00 reference manual and 30 days free support

349.00 up to 3 hours of on-site or teletraining and 30 days of free support

Other Programs

-Inventory Manager

-Amortization Calculator

-Budgeting Module

-Payroll Module

-Crop Production Cost Model

-Crop Sale Inventory

-Grain Settlement

-Swine Finishing Analysis

-Livestock Finishing Record

-Financial Planner

-Cost Allocation Calculator

-Multi-Farm Module

-Crop Production

-Crop Comparison Model

-Cash Rent vs. Share Crop

-Livestock Breakeven Analysis

-Livestock Production Cost Model

-Mark to Marketing Calculator

Pioneer also offers a number of decision aid programs, which run on LOTUS, and office programs.

Additional information concerning Farm Accounting, Advanced Farm Accounting, and other programs and services offered by Pioneer can be obtained from the following address:

Pioneer Hi-Bred International, Inc.

PIONEER Software

11153 Aurora Avenue

Des Moines, IA 50322

(515) 253-5700

ULTRA F.A.R.M.

Specialized Data Systems, Inc. has developed the ULTRA F.A.R.M. program for use in agricultural operations. The system is cash based, with optional accrual capabilities. The system can be used for multiple farms for multiple years. Also, there are five checkbooks which can be utilized. As the transactions are made, the appropriate checkbooks are adjusted. All data is automatically backed up on a floppy disk. ULTRA F.A.R.M. also keeps track of inventory and payroll.

Tax Information Generated

ULTRA F.A.R.M. generates tax information. The program generates a Year End Tax Report, along with schedule worksheets and information for use on Schedule F, Schedules A through E, Form 4797 and Form 1099's. The Schedule F Worksheet can also be produced in the middle of the tax year, using the actual information of the previous months, and projected amounts for the remaining months to determine an estimated tax liability for tax planning purposes. The items on the Schedule F Worksheet are listed much like they appear on the actual Schedule F used for income tax purposes. The only apparent difference is that the Schedule F Worksheet produced by the software itemizes specific areas of income, such as "Sale of Raised Product" and "Additional Income," in addition to the composite amounts.

Enterprise Analysis Generated

Enterprise analysis information is generated by ULTRA F.A.R.M. Enterprises can be classified as one of the following five types of enterprises: Livestock, Crops, Other Business, Custom Work, and Schedule E Codes. The Enterprise Analysis report displays

the income and expenses, as well as profit of the individual enterprises by month and year totals. At the end of the report, a total of the above is listed in order to confirm total farm income, total farm operating expenses, total amount allocated to family living, and the amount that could be used for savings, investment, and for debt repayment.

Other Reports Generated

With ULTRA F.A.R.M., over 1,000 different report variations can be generated. There are 25 checkbook/owner combinations that can be in the form of detailed reports, or summary totals. Reports can be set-up by subsets of items, enterprises, or vendor.

The following are common reports that ULTRA F.A.R.M. produces. The Trial Balance is a report that reconciles the checkbook balance by listing deposits and disbursements for a particular month according to the order in which deposits were made and checks written. The Checkbook Reconciliation is much like the Trial Balance except that deposits and disbursements are listed in date order. The same beginning and ending totals are used for both. The Detailed Transaction Listing lists the date, check number, vendor description, enterprise code, and amount. The Employee Earnings report contains the necessary information for keeping payroll records. The Money Borrowed Vendor report lists the interest, principal and balance for each loaning vendor, and a grand total of the entire debt load. The General Vendor report contains information on vendors, both buying and selling. The Actual Cash Flow report is an itemized list by account, and by enterprise in the case of income, for cash going in and out of the business. It also lists beginning checkbook balances and the increase or decrease in debt load. The Sales Analysis report describes the sales activity for each enterprise by month and by yearly

totals. The Cash Farm Profit and Loss compares the actual and project income, expenses, and percentage of total farm income, to indicate where actual income and expenses stand in relation to what was budgeted.

Documentation/Ease of Use/Error Correction

The documentation sent with the demonstration copy was informative and somewhat easy to follow. The actual manuals were not available for analysis with the demonstration copies. However, the full-length program comes with manuals for operations, reports, options, and accruals. These manuals include procedures for vendor setup, cash accrual accounting and check writing, year end procedures, check writing, and illustrations of reports.

The system is set up in a series of windows that get more specific from window to window. The windows are easy to understand, and fairly self-explanatory. A recommendation is to go through the demonstration copy, which is a tutorial, to get the feel for the program, before working with the actual program.

Error correction is easy because the months are never closed. This facilitates changing transactions that may be wrong or adding those that are missing. Any change or additional transactions will immediately change the appropriate checkbook balance in order to reflect the change.

Services Offered

The ULTRA F.A.R.M. software comes with a set of four manuals which have already been discussed in the documentation section of this analysis. In addition, technical support is offered free of charge if it is needed. An educational package is also

available for use in the classroom. Demonstration copies are available free of charge.

Hardware

ULTRA F.A.R.M. requires the following hardware:

IBM compatible PC with a Hard Disk

640K memory

DOS version 3.1 or higher.

Cost

\$550.00 ULTRA F.A.R.M. Accounting system
Free Technical Support.

Other Modules

- Inventory, an integrated module, will track livestock, feed usage, enterprise transfers, and crops held for market, resale, or feed. A Net Worth Statement prepares supporting schedules to report these areas.
- Depreciable Livestock
- Fixed Assets
- Accrued Items

Additional information concerning ULTRA F.A.R.M. and services offered by
Specialized Data Systems, Inc. can be obtained at the following address:

Specialized Data Systems, Inc.

P.O. Box 8278

Madison, WI 53708

(608) 241-5050

TransAction Plus

FBS Systems, Inc., has developed TransAction Plus for agricultural accounting use. The program can either be cash based (single entry system) or accrual based (double entry system). However, the method must remain consistent throughout the program. Data can be entered by checks written, deposits received, journal entries for non-cash transactions, transfers, and adjusting entries to record beginning balances or adjust account balances. The program prints checks, assist in budget preparation, and allows the user to keep track of wages and withholding information for payroll purposes.

Tax Information Generated

TransAction Plus will produce a Schedule F Report for cash-based accounting only. The report is a summary of the operation's income and expenses for the current year and report must be setup annually. The report line numbers are similar to the line numbers found on the Schedule F that is completed for income tax purposes so that transfer from the report to the tax form can be done with ease. Annual set-up of the report will ensure that the line numbers correspond between the report and tax form.

Enterprise Analysis Generated

TransAction Plus can keep track of 600 different enterprises. Enterprises can be one of five types: Crop Production, Livestock, Service, Loans, and Unallocated Enterprises. Service enterprises are setup for those transactions that cannot be allocated to one particular enterprise. Unallocated enterprises are for transactions that have been incurred, but the enterprise that will use it has not been determined.

Two reports can be generated for enterprises. The Range of Enterprises report

is a listing of the transactions that have taken place within a particular enterprise. Each enterprise is listed on a separate page. For each enterprise, there is a detailed list of transactions with information concerning date, vendor, enterprise account, profit center, description, quantity, and amount. Following the transaction listing is an account listing to reconcile the transactions. Expenses, income and profit of the enterprise are also included. The last page of the report is a summary of the enterprises showing total income, total expenses, profit, change in assets, change in liabilities, and change in owner equity.

The Range of Enterprises Totals report is a combination of the enterprises, with a summary of accounts used for each enterprise. Each enterprise is listed with its expenses, income and profit. The end of this report also provides a summary showing total income, total expenses, profit, changes in assets, changes in liabilities, and changes in owner equity.

Other Reports Generated

TransAction Plus will generate the standard balance sheet, income statement, and net worth statement. The program will also generate a number of other reports. The Account Summary will print the totals of all the accounts, and compare those totals to the budgeted figures. The Accounts Payable and Accounts Receivable reports are lists of vendors that the user owes money to, or owe the user money, respectively. The Bank Account Summary reports the bank activity for a given amount of time. A listing of all deposits and cleared checks for a specific bank account makes up the Bank Reconciliation. All deposits and checks, regardless of their clearance status are reported

on the Check Register report. Both the Trial Balance and Detailed Trial Balance, showing separate transactions, are generated. The program will also generate Loan Reports, which list all the of loans of the operation with applicable loan payments and interest expenses. The Transfer report shows the activity between bank accounts. In addition, the program also generates user-defined reports on the basis of vendor, description, ledger accounts, enterprises, profit centers, and/or bank accounts.

Documentation/Ease of Use/Error Correction

Two manuals were sent with the demonstration copies of TransAction Plus. One manual was a set-up manual for TransAction Plus, as well as other programs offered by FBS Systems, Inc. The other manual contained instructions for the use of TransAction Plus. All the instructions were clearly stated. In addition to the instructions, the discussion of each function included a summary of what the particular function did, what the function allowed the user to do, and when to perform the function. The manual also contains numerous examples of what should appear on the computer screen, and what printed documents should look like.

This program has a menu format. The program is not simple. Use of the program will probably begin as a trial and error exercise. Use of on-site training and the support hotline is strongly encouraged with the use of this program.

The main menu provides an edit function to correct errors after the original entries have been saved. The edit function will change entries made for checks and deposits, adjusting entries, and journal entries. A part of the entry can be changed or the entire transaction can be deleted. After the changes have been made, the appropriate accounts

are adjusted to reflect the change.

Services Offered

TransAction Plus comes with Set-up and Users manuals, which have already been discussed. FBS Systems, Inc. also provides support packages at various prices depending on the extent of the support. Training is available. Education materials and packages are also available. Demonstration copies of TransAction Plus and other programs offered by FBS Systems, Inc. are available for \$75.00 or less.

Hardware

TransAction Plus requires the following hardware:

IBM compatible PC with Hard disk
512 RAM
DOS version 2.11 or higher

Cost

\$995.00	TransAction Plus
35.00	Thirty-day trial

Other Programs

-Smart Start	-Coordinated Financial Statements
-AFAES (Agricultural Financial Analysis Expert System)	-Depreciation Plus
-Payroll Plus	-Report Generator
-Crop Audit+	-Smart Breed
-Smart Feed	-Herd Audit
-CEO Series	-Sow Audit
	-EXEC Series

For more information concerning TransAction Plus, and other programs offered,
can be obtained from FBS Systems, Inc. at:

FBS Systems, Inc.
Post Office Drawer 248
Aledo, IL 61231

(309) 582-5628

The Doane System

Doane Agricultural Services Company has developed a complete computer accounting system. The system is designed for use with diversified farms, orchards and ranches. One unique aspect of this system is its ability to account for fruits and vegetable operations. The system analyzed was composed of four interrelated areas: General Ledger, Accounts Payable, Enterprises, and Payroll. The system has both cash-based and accrual capabilities. Each area is separate, containing its own entries and reports.

Tax Information Generated

This system will generate tax information. The Schedule F is produced through the General Ledger. When the General Ledger accounts are set up, the appropriate Schedule F information is entered for correct placement of the data on the report generated by the system. The report is similar in appearance to the IRS Schedule F for easy transfer of data from the report to the IRS tax form. The option to adjust the Schedule F according to annual changes is also available. Information for Form 1099 is available in Accounts Payable. Payroll also generates information concerning withholdings for federal, state, county, and FICA, W-2 forms, and unemployment taxes.

Enterprise Analysis Generated

The Enterprise function of this system is based on a single entry system. The system has nineteen types of enterprise codes. Costs for the enterprise can be separated into detailed units (ie-particular fields), or be reported in consolidated form. This function produces several reports specifically for enterprise analysis. The Enterprise

Master Listing gives the user a brief status report of various enterprises. The Monthly Enterprise Summary Report is a brief overview of the activity of an enterprise for a given amount of time showing Income, Direct Costs, Indirect Costs, Gross Margin, and Enterprise Gain or Loss. The Enterprise Transaction Detail Report is a report that lists transaction activity within a specified time frame.

A unique feature of this program is that Enterprise module is separate from the General Ledger section so that when the General Ledger is closed at year end, the enterprise records can remain open. Therefore, the enterprise for corn production, for example, does not have to be closed on December 31, 1992, but when the corn is actually sold on March 3, 1993.

Other Reports

The Doane System produces a number of reports. Each area of the program produces its own reports. The reports produced by the Enterprise function have already been discussed.

Payroll will produce reports such as the Employee Master Record Listing, Payroll History, Payroll Labor Distribution Report, Payroll Register with summary, and Payroll Tax Register. The system will also print W-2 forms and employee paychecks. The system will also generate Crew Worksheets for planning purposes.

Basic reports like the Trial Balance, Balance Sheet and Income Statement are generated through the General Ledger of this system. In addition to these reports, the General Ledger can also produce a Detailed Transaction Listing, a Cash Flow Forecast, and comparison reports of the annual budget to the actual performance. The Schedule

F has been previously discussed.

The Accounts Payable section of this program produces reports such as Cash Requirements Projection, Accounts Payable Check Register, and accounts payable edit lists for invoices and enterprises to monitor outflow of cash. Accounts Payable can also produce information by vendor with reports like the Vendor Payment Summary, Vendor Aging with invoice totals and General Vendor Information. Checks can also be printed through Accounts Payable. The generation of information for the 1099 Form has already been discussed.

Documentation/Ease of Use/Error Correction

A manual was sent with the demonstration copy of the Doane System. The manual was color-coded according to areas for Installation, Payroll, Enterprise, General Ledger, and Accounts Payable. Within the four function areas, tabs denoted placement of areas such as Introduction, Entries, Reports, and Appendix. The manual had explanatory instructions, specific instructions, and illustrations of computer screens and reports for the procedures.

The system is on a menu format. The menus were self-explanatory and easy to understand. As a whole, the program was fairly easy to execute, but because of the size and capabilities of the system, using it was overwhelming. Users should take advantage of the training and demonstration copies of the program to gain a full understanding of the system.

Error correction in this system was different among the separate areas of the system. In Payroll, to change the rate, the correction was made on the employee master

record. Changes in amount required a reversing entry. In Enterprise, a change or adjustment required just a change on the screen. An adjustment to an entry was achieved by making another entry with the adjusting amount, positive or negative. In the General Ledger, a change in description, vender/customer, check number, invoice number, or year was achieved through menu selection. However, to change accounts or month, a reversing entry and reentry in the correct account or month was required. In Accounts Payable, any unposted invoice were changed or deleted within the function; however, posted invoices require a credit memo.

Services Offered

The Doane System offers several services in conjunction with the use of the system. The software annual maintenance service provides a monthly technical newsletter, federal and state tax changes, W-2 and Form 1099 format changes, and recommendations. Network Configuration, Initial System Support, and system training are also available.

Hardware

The Doane System requires the following hardware:

PC-DOS or MS-DOS for IBM compatible PCs; MS-DOS for Texas Instruments & Zenith 100.

320 RAM

320 or higher Floppy disk

Printer: ASCII type with 80 columns of condensed print or 132 columns.

Cost

\$2970.00	General Ledger, Enterprise Costing, Asset Depreciation, Accounts Payable, Piece Rate Payroll - \$275/yr Maintenance
1995.00	General Ledger, Enterprise Costing, Accounts Payable, Asset Depreciation - \$175/yr Maintenance
675.00	General Ledger
675.00	Enterprise Costing
675.00	Accounts Payable
975.00	Piece Rate Payroll

Annual Maintenance - 9% of cost

Network Configuration \$750.00 initial
 150/year maintenance

System Training 350/day

System Support

- with purchase price - 60 days and 60 minutes
- additional support - \$150/3 days

Other Programs

- | | |
|--------------------|-------------------|
| -Nursery System | -Landscape System |
| -Seed Inventory | -Farm Manager |
| -Equipment Manager | |

Additional information concerning the Doane System, and services offered, can be obtained at:

Doane Agricultural Services Company
Software Division
4900 Griffith Drive #125
Beaverton, OR 97005

(503) 646-5581

Horizon Accounting

The Horizon Accounting computer program is produced by Harvest Computer Systems. It is a double-entry system that requires one entry to record the debits and credits in the appropriate accounts immediately. The program has both cash-based and accrual capabilities. Horizon Accounting has the capabilities to keep track of inventory and calculate simple payroll deductions manually. However, Harvest Computer Systems also has programs specifically designed for Inventory and Payroll that will integrate with Horizon Accounting.

Tax Information Generated

Horizon Accounting does not have a separate tax function or reports. However, information from the Cash Income Statement can be transferred to the Schedule F. The Cash Income Statement format is not similar to the format found on the IRS Schedule F. Information for Forms 1120S and 1099 can also be generated.

Enterprise Analysis Generated

In Horizon Accounting, enterprises are distinguished through the use of tags that indicate an enterprise, or a specific field, landlord, partner, or other item. When entries are made to the program, a tag, or multiple tags if necessary, are entered to assign income and expenses to the appropriate enterprises. Enterprise reports will show the income and expenses for a specific enterprise to determine net cash of that enterprise. In addition, the income and expenses for a partner, or those assigned to a piece of machinery or field are reported in the same way.

Other Reports Generated

Horizon Accounting will generate the basic Balance Statement and Income Statement. The following are other reports the program will generate. The General Ledger report will list transactions for a month, or months, by account. It can either give a detailed listing of activity within the account or a summary of balances for specified accounts. The Detailed Report is a detailed listing of entries. The report can be sorted by account, vendor, date, invoice number, journal, or memo number. The Financial Analysis reports help monitor the status of the operation. Analyses included are Earnings, Repayment Capacity, Productivity, Balance Sheet, and Liquidity. Accounts Payable and Accounts Receivable reports the standing of all unpaid invoices from suppliers and to customers, respectively. The Checkbook Register is a listing of the checks written, deposits, and balance of a checking account. The Checkbook Balancer reconciles the checking account to the bank statements.

Documentation/Ease of Use/Error Correction

A manual was sent with the demonstration copy of Horizon Accounting. The manual was separated into tabbed sections for instructions for general use, data entry, reports, utilities, and special procedures, as well as a "How To ..." section and an appendix. Included in the manual were numerous illustrations of the computer screens and examples of reports generated. The instructions were extensive with specific procedures for entries and key strokes. The tutorial manual was also helpful in understanding the system.

The program is based on a menu format and the menus and screen instructions

are fairly easy to understand. Users should take advantage of training and demonstration copies in order to get a feel for how the program works.

Horizon Accounting has an Edit function within its entry menu. This allowed the user to correct errors without making an adjusting entry or entries. In addition, options to edit areas such as invoices, account groupings, enterprises, vendor files, and system configuration was available. The option to delete files was also available.

Services Offered

The Horizon Accounting system provides three levels of support: Pay-per-call, Regular and Super. In addition, training classes and workshops, 1-on-1 set up and training service, quarterly newsletters, and regional training conferences are available.

Hardware

Horizon Accounting requires the following hardware:

MS-DOS IBM compatible PC and hard disk
640 K RAM
DOS 3.1 or higher

An Apple version is also available

Cost

\$625.00	- Horizon Accounting system
995.00	- Network Configuration
45.00	- Trail version - deductible from purchase

Pay-per-call support - 90 days free, toll free number
Mid-Release Maintenance - \$30.00
Regular Support - \$75/yr
Super Support - \$135/yr

Other Programs

- | | |
|-----------------------------|---------------------------|
| -Horizon Payroll | -Horizon Farm Inventory |
| -Horizon Report Plus | -Horizon Profit Center |
| -Horizon Invoicing | -Depreciation Log |
| -Field Manager | -Beef Manager |
| -Hog Manager | -Machinery Manager |
| -Technichart | -Databridge |
| -Profit Tools for Crops | -Profit Tools for Finance |
| -Profit Tools for Livestock | |

More information concerning Horizon Accounting, and other programs and services offered by Harvest Computer, is available at:

Harvest Computer Systems, Inc.
P.O. Box 738
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Summary of Comparative Analyses

	Farm Accounting	Advanced Farm Accounting	ULTRA F.A.R.M.	TransAction Plus	Doane	Horizon Accounting
Inventory Function	No	Yes	Yes	No	Yes	Partial
Cash/Accrual Based	Cash	Both	Both	Both	Both	Both
Tax Information: Schedules Generated Format transfers	Schedules F,C,A Yes	Schedules F,C,A Yes	Sch. F,A-E,4797 Yes	Schedule F Yes	Schedule F, 1099 Yes	Schedule F,1099 Yes
Enterprises: Types Income Statement or Enterprise Report Information Shown	8 Income Statement Income Expenses Profit	8 Income Statement Expense Liability Asset Net Worth	Numerous Income Statement Income Purchases Direct Overhead % of Living Individual profit	5 Enterprise Report Income Expenses Profit Change in Assets Change in Liabilities	19 Enterprise Report Income Expenses Profit Quantity	Tags With Regular Reports Income Expenses Net Cash
Other Reports: Income Statement Balance Sheet Cash Flow Transaction Listing Vendor Listing Net Worth Statement	Yes No Yes Yes Yes Yes	Yes No Yes Yes Yes No	Yes No Yes Yes Yes No	Yes Yes Yes Yes Yes Yes	Yes Yes Yes No Yes Yes	Yes Yes No No Yes No
Documentation	Manuals	Manuals	Manuals	Manuals	Manuals	Manuals
Ease of Use: Main Screen Options	Easy 5	Easy 5	Easy 7	Trial & Error 5	Overwhelming 15	Fairly easy 5
Error Correction	Change/Delete	Change/Delete	Open months	Edit function	various ways	Edit function
Services Offered	Manual Hotline Demo copies On-site training	Manual Hotline Demo copies Training	Manual Hotline Demo copies	Manual Hotline Demo copies Training	Manual Hotline Demo copies Training	Manual Hotline Training
Cost	\$279-529	\$449-749	\$550	\$995	\$1995-2790	\$625
Hardware:PC RAM DOS	MS-DOS 512 K 2.1 or higher	MS-DOS 512 K 2.1 or higher	IBM compatible 640 K 3.1 or higher	IBM-PC 512 K 2.11	MS-DOS 384 K	MS-DOS 640 K
Other Programs	Yes	Yes	More modules	Yes	Complete system	Yes

*Enterprises are specific areas of the agricultural operation used to determine to profitability of individual areas. Examples of enterprises are a group of livestock, a particular field, and a piece of machinery.

Conclusion

In conclusion, this project has broadened my perception of accounting for an agricultural operation. As was stated in the introduction, farming is no longer just a means of subsistence, but a business operation. Because of this change in the nature of farming, changes need to be made in the accounting methods, including the integration of computers and accountants to assist in making the agricultural operations profitable.

From the study, the following conclusions have been drawn. For the small farmer, Farm Accounting by Pioneer is the best choice. Most farmers, especially the smaller farmers are cash-based so accrual accounting is unnecessary. The program offered the basic tax information needed by the smaller farmer. The lower cost and ease of use are what makes this program the best for the smaller farmer. Also, the ability to convert to Advanced Farm Accounting as the farm gets larger is a benefit to the growing small farm.

ULTRA F.A.R.M., produced by Specialized Data Systems, is the best choice for the medium-sized farm. The program offers a number of options that can be utilized by a larger operation. The lower cost is an advantage. The only disadvantage of ULTRA F.A.R.M. is that the program takes a large amount of RAM compared to the other programs studied which means the user will need to spend more on the hardware.

The Doane System is most beneficial to the large farmers and operations run as corporations. The options of the program can provide the large farmer with the capabilities he needs. The cost of the program is much higher than the other programs studied, but if the operation is large enough to require the capabilities of the Doane System, the benefit of the program should outweigh the cost of the program. The one

disadvantage of the program is the inconsistency of error correction.

The overall best buy for one's money of the programs studied is ULTRA F.A.R.M. The capabilities of the program are comparable to those of more expensive systems. Also, the ease of use is beneficial to all users of the program.

This study is not comprehensive in any way, and should not be taken as such. Farmers and others in the agricultural industry who are considering the purchase of agricultural accounting software should contact the software firms discussed here, and other producers of this type of software. The use of this study by the general public is intended to be supplement to information from the software producers, not the primary source of information for decision-making.

Appendix

The following is a brief description of the forms and schedules mentioned in the text. Please note that this is not a complete list of tax form and schedules that a farmer may be required to use. Please contact a tax consultant for the full requirements of your operation.

Form 1040 The basic form for reporting tax information to the IRS. Most taxpayers must file with the IRS.

Schedule A Itemized Deductions. These are deductions that may be subtracted from adjusted gross income (computed on the Form 1040).

Schedule B This schedule is used to report the following: Dividend Income over \$400, Taxable Interest Income over \$400, and Foreign Accounts and Trusts. Taxable interest income is most applicable to farmers.

Schedule C Profit or Loss from a Sole Proprietorship. This applies to the sale of a farm if owned by one individual.

Schedule D Capital Gains and Losses. This applies to any sale of property or equipment if owned for a period longer than one year.

Schedule E Income or Loss from the following: Rents & Royalties, Partnerships and S Corporations, Estates & Trusts, Real Estate Mortgage Investment Conduits, Windfall Profit Tax Credit and Refund Recognized in 1991.

Schedule F Income and Expenses from Farming. This applies to income and expenses related to the farming operation. This does not apply to the following:
Gains from sales of farm property or depreciable farm machinery (look at Schedule D and Form 4797)
Gains from sales of livestock used for purposes other than strictly sale purposes. Sales of dairy cattle are not included on this schedule. (Look at Schedule D)
Income received by a custom grain harvester

Form 1099 The item applicable to the farmer are payments for real estate, machine and pasture rentals and proceeds from crop insurance.

Form 1120S This is the tax form for farms setup as S Corporations. In these instances, the 1120S would be used instead of the 1040.

Form 4797 Sales of a Business Property. This is used when farm ground is sold.

Bibliography

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